

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C. 20231  
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year)  
24 August 2000 (24.08.00)

International application No.  
PCT/US99/17876

Applicant's or agent's file reference  
4263.49.113

International filing date (day/month/year)  
06 August 1999 (06.08.99)

Priority date (day/month/year)  
21 December 1998 (21.12.98)

## Applicant

KRISKO, Annette et al

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
21 July 2000 (21.07.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Antonia Muller

Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>4263.49.113</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 99/17876</b>	International filing date (day/month/year) <b>06/08/1999</b>	(Earliest) Priority Date (day/month/year) <b>21/12/1998</b>
Applicant <b>CARDINAL IG COMPANY et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/17876

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C03C17/34 C03C17/36

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C03C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	✓ EP 0 820 967 A (MURAKAMI CORP) 28 January 1998 (1998-01-28) page 4, line 30 - line 45; claims ---	1-15
A	✓ EP 0 689 962 A (MURAKAMI KAIMEIDO KK) 3 January 1996 (1996-01-03) the whole document ---	1-15
A	✓ PATENT ABSTRACTS OF JAPAN vol. 013, no. 187 (C-592), 2 May 1989 (1989-05-02) & JP 01 014129 A (HITACHI LTD), 18 January 1989 (1989-01-18) abstract -----	1-15



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

17 November 1999

Date of mailing of the international search report

24/11/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Van Bommel, L

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/17876

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0820967	A	28-01-1998	JP 2901550 B	07-06-1999
			JP 10036144 A	10-02-1998
			US 5854708 A ✓	29-12-1998
EP 0689962	A	03-01-1996	JP 8011631 A	16-01-1996
			US 5594585 A ✓	14-01-1997
JP 01014129	A	18-01-1989	JP 2610880 B	14-05-1997

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
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AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
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BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
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BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
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CN	China	KZ	Kazakstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

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International Application No

PCT/US 99/17876

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C03C17/34 C03C17/36

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C03C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

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☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance

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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

17 November 1999

Date of mailing of the international search report

24/11/1999

Name and mailing address of the ISA

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NL - 2280 HV Rijswijk  
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Fax: (+31-70) 340-3016

Authorized officer

Van Bomme1, L

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0820967 A	28-01-1998	JP 2901550 B JP 10036144 A US 5854708 A	07-06-1999 10-02-1998 29-12-1998
EP 0689962 A	03-01-1996	JP 8011631 A US 5594585 A	16-01-1996 14-01-1997
JP 01014129 A	18-01-1989	JP 2610880 B	14-05-1997

## PATENT COOPERATION TREATY

## PCT

REC'D	09 NOV 2000
WIPO	PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference 4263.49.113	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US99/17876	International filing date (day/month/year) 06/08/1999	Priority date (day/month/year) 21/12/1998
International Patent Classification (IPC) or national classification and IPC C03C17/34		
Applicant CARDINAL IG COMPANY et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
  - ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 807 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  21/07/2000	Date of completion of this report  07. 11. 00
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Maurer, R  Telephone No. +49 89 2399 8578  

Form PCT/IPEA/409 (cover sheet) (January 1994)

PK23125, 21.12.2000

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US99/17876

**I. Basis of the report**

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

**Description, pages:**

1-29 as originally filed

**Claims, No.:**

1-15 as originally filed

**Drawings, sheets:**

1/5-5/5 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US99/17876

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-15 yes
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-15 yes
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-15 yes
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/US99/17876

1) Reference is made to the following documents:

D1 EP-A-0820967

D2 EP-A-0689962

D3 PATENT ABSTRACTS OF JAPAN, vol.013, no.187 (C-592) 2 May 1989.

2) The present application, claims 1-15 fulfils the requirements of Articles 33(2) and (3) PCT:

None of the cite prior art documents suggests nor gives any hint as to considerably decrease the accumulation of dirt and water stains on a glass by coating the glass with an exterior surface bearing a low emissivity water-sheeting coating thereon, the said coating comprising

- a 1st pyrolytically applied dielectric layer on the exterior glass surface and
- a 2nd exterior silica layer sputtered on the 1st layer.

The cited A-documents differ essentially from the subject-matter of the present application in that

D1 relates to an anti-fog element with a photocatalyser film (TiO<sub>2</sub>) and a porous SiO<sub>2</sub> water spreading film thereon. Both films are applied by vacuum evaporation. D1 does not disclose any dielectric layer nor sputtering of SiO<sub>2</sub>.

D2 relates to a vehicle mirror, wherein a water spreading, porous, sputtered SiO<sub>2</sub> coating is applied on one side and a reflecting coating on the other side of the mirror. D2 does not disclose a dielectric underlayer.

D3 relates to a glass coated with a transparent film of

- a) mixed corpuscle of two or more kinds of In<sub>2</sub>O<sub>3</sub>, SnO<sub>2</sub> and Sb<sub>2</sub>O<sub>3</sub> and
- b) hydrophilic SiO<sub>2</sub> in order to prevent clouding when the glass in the vehicle is air-cooled. D3 does not disclose sputtering.